

SCALABLE FISH REARING RACEWAY SYSTEM**ABSTRACT**

A scalable fish rearing raceway system and method of making same is provided, incorporating a fish containment structure having two semi-circular end sections, and two 5 or more parallel fish raceways to maintain optimal current velocity, surrounding a central zone for housing water treatment systems and a secondary fish crop. Means of eliminating heavy particulates from the main fish rearing channels is accomplished by use of conical areas located at either end of an elongated raceway. Continuous removal of dead or dying fish from the raceway is accomplished by means of a floating mortality 10 catcher consisting of a screened ramp at the surface of the cones which continuously collect moribund and dead fish. Removal of dead and dying fish significantly reduces labor costs associated with the frequent manual removal of such fish and reduces the transmission of infectious diseases. A U-tube oxygenation system continuously injects air or oxygen gas which is dissolved into the water. Several probes monitor and control 15 dissolved oxygen levels in the water. These monitors are connected to a centralized alarm and computer monitoring system. The raceway is equipped with feed silos that can dispense feed of several sizes and multiple frequency throughout the day. The inventory of fish is monitored by an underwater scanning device which reduces the handling stress associated with netting. The raceway can be stocked with uniform sized fish which are 20 grown to market size as a batch culture. Alternatively, grading bars can separate and move the larger fish underwater to an adjacent raceway through the common fish transfer channel, and the resulting space subsequently restocked with smaller fish. This provides for a continuous grading and restocking method which results in a much greater annual yield. This larger scalable fish production system substantially reduces the direct labor 25 associated with the monitoring, feeding and harvesting of fish. It also requires lower capital costs since it requires fewer components such as monitors, feeders, oxygen diffusers and other equipment per unit of fish produced.